

Thai Air Force White Paper 2024

RTAF White Paper 2024



“The power of the air is the only true shield that can prevent war from reaching our country. It is also a great benefit in normal time transportation. ”[1]

Field Marshal Her Royal Highness Princess Maha Chakri Sirindhorn Prince Chakrabongse Phuwanart Krom Luang Phitsanulok Prachanat

Father of the Thai Air Force

[1] Statement from the Department of the General Staff of the Army, 1919. (1919, 14 March). Royal Gazette. Volume 36. Page 3974

introduction



Air power or Air Power is a valuable military power, especially in situations of conflict. Air power is the deciding factor in winning or losing. Because it is decisive, powerful, and accurate. It is fast. and is highly flexible. In addition, air power is used in times of peace. To help our fellow citizens and develop the country, all of this comes from the characteristics of air power. which uses modern technology and has international standards But it is expensive to procure, take care of, and maintain. Therefore, resource management of air power under constraints of the national budget, which is a serious challenge The Royal Thai Air Force has therefore prepared the RTAF White Paper 2024 or RTAF White Paper 2024 to express the importance and necessity of preparing air power. which specifies important plans and projects from now until 2037, taking into account balanced development in all dimensions. Coordination with the armed forces Research and development support Promoting the national defense industry in both the public and private sectors as well as cooperation with educational institutions However, the Air Force White Paper is necessary. Must be modernized In order to keep up with changing situations and threats.

The Air Force is aware of long-term development planning and spending of the national budget to achieve maximum value. Therefore, I sincerely hope that The Royal Thai Air Force White Paper 2024 has been released to the public. It will help all parties to know. And understand the guidelines for developing a strong and efficient Air Force or “Roadmap to Unbeatable Air Force” for the highest benefit of the nation. and the people further

Air Chief Marshal

(Phanpakdee Pattanakul)

Air Force Commander

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Introduction

"Thai airspace will not be invaded by anyone" is a statement that the Air Force has always adhered to. According to the duties and responsibilities of the Royal Thai Air Force in caring for and protecting Thailand's airspace. Maintain national interests It is an important basis for the development of the country. Have honor and dignity in the world community To create such stability, it is necessary The Air Force relies on knowledgeable personnel who have undergone continuous training that meets standards. Including must have tools or weapons and equipment. Quality using advanced technology and reliable. These factors make air power expensive. This is the nature of air power around the world. The development of the Air Force must proceed with a clear direction. There is a plan that is balanced, careful, and provides the most value from the use of the national budget.

1. Background of the White Paper Review

The Royal Thai Air Force has prepared the Royal Thai Air Force White Paper 2020 to disseminate its missions. preparation as well as communicating to the public about important plans/projects over a period of 10 years (2020 - 2030). However, due to the past period of time, the world has had many important events, including the spread crisis. of coronavirus disease 2019 (COVID - 19) Russian - Ukrainian war , disaster from the earthquake in Turkia. Israel-Hamas War It has affected the overall budget of the country in the past. or even the emergence of military technology that has never been seen before All these factors resulted in the Royal Thai Air Force A review of the required capabilities must be undertaken. combat force structure and determine guidelines for implementing new important projects To set a clear direction for the development of the Air Force It is the source of review and preparation of the Royal Thai Air Force White Paper 2024 or RTAF White Paper 2024.

2. Objectives

The Air Force White Paper 2024 or RTAF White Paper 2024 is a public communication document. for the people security agencies Government agencies and the private sector are aware of, aware of, and understand their roles and capabilities. that the Air Force needs To carry out the mission efficiently Through important projects according to the Air Force development guidelines The details are as follows:

๑) To communicate strategically to society and the people Let us know the reasons and the necessity of the Air Force's capability and combat power requirements; According to national interests and roles and responsibilities according to the Constitution of the Kingdom of Thailand

๒) To reveal important projects of the Air Force in various areas according to the Air Force strategy until 2037, including methods for implementing projects according to the concept of " Roadmap to Unbeatable Air Force "

๓) To support driving the country's economy By promoting the national defense industry and increase the competitiveness of the people in the nation as well as supporting the policy to compensate for imports of military equipment (Defense Offset) Policy)

3. National interests

The National Security Council has determined national interests or National Interests , consisting of:

- Independence, sovereignty, and the integrity of state jurisdiction.
- stable existence sustainability of the nation's main institutions
- The stable existence of the nation and people from all forms of threats.
- Living together in peace and harmony as a nation. Social stability amidst Plural society and human dignity
- Ability to maintain national interests under changes in the international environment

- Peaceful coexistence with stability in ASEAN and the international community.
- Sustainability of the natural resource base and environment
- Energy and food security
- National growth, fairness, and the well-being of the people

The Air Force places importance on national interests above all else, adhering to the development of capabilities for the nation and people (For the nation and people) by prioritizing them as follows:

- National Survival Using the concept of holistic security (Comprehensive Security) that focuses on integrating cooperation with all sectors Driving joint operations of the Royal Thai Armed Forces To preserve specific national interests, that is, national defense and national air interests, which have an economic value of up to 2.2 trillion baht, creating 4.3 million jobs, accounting for 15 percent. 5 of GDP[๒]

- The existence of the people in the nation Based on the idea of Human Security, which gives the utmost importance to the safety of the people of the nation . Therefore, it is the duty of every military unit to use its capabilities and combat power in normal times. Support the development of the country and help the people. The Air Force focuses on Application of combat power so that it can be used in tandem with both military operations and helping the people. Also known as Dual Application

4. Missions and duties of the Air Force

The Air Force is a security agency. There are missions and duties according to the 2017 Constitution of the Kingdom of Thailand, Section 52, which states that “the state must protect and maintain the monarchy, independence, sovereignty, territorial integrity, and the territory of Thailand. have sovereignty National honor and interest State security and public order For the benefit of this States must provide

[๒] Information from the International Air Transport Association 2017

effective military, diplomatic, and intelligence services. Military power shall also be used for the benefit of national development." And the Ministry of Defense Civil Service Act 2008, Section 21, stipulates that the Royal Thai Air Force has the duty to prepare the Royal Thai Air Force. kingdom defense and take action regarding the use of Air Force forces according to the authority and duties of Ministry of Defense The Air Force Commander is the responsible commander. The unit is organized and assign duties to various units of the Air Force according to the royal decree on division Government service and specifying duties of government agencies of the Air Force, Royal Thai Armed Forces, Ministry of Defense, 2009. In addition, The Air Force is also authorized to be the controlling officer. and enforce the Act on Treatment of Illegal Aircraft, B.E. 2010

5. Operational area

Air power has important characteristics: it can move quickly and has a long operating range , covering a wide area . able to perform missions It can take many forms and is also flexible in practice. Able to quickly respond and adjust missions to accommodate changing situations. The Royal Thai Air Force has therefore divided operational areas into 3 types as follows:

- Area of Interest is the entire world. In fact, according to the Ministry of Foreign Affairs, in 2022 [๓]there were a total of 1,385,157 Thai people living abroad, arranged in descending order as follows: 1) America, Australia, and New Zealand 2) East Asia. and Southeast Asia, 3) Europe, and 4) South Asia, Africa, and the Middle East. In the past, the Thai government, whose duty was to protect and maintain the safety of Thai people abroad, The Air Force has been assigned to carry out the evacuation. Thai people return to their homeland due to various factors such as large disasters, conflicts, battles or wars within that country. Therefore, the Air Force must have The ability to reach various areas

[๓] Accessible from https://consular.mfa.go.th/th/publicservice

around the world (Global Reach Capability) to respond to the government in taking care of all Thai people in every location.

- Area of Influence is the ASEAN region area Strengthening and maintaining peace and security in Southeast Asia It's important. Directly affecting the power of the nation in every aspect. Various events or unrest that happened in the country around the house spread of influence or deployment The military activities of the major powers in the ASEAN region may inevitably affect the stability of the region and Thailand. Therefore, the Air Force must closely listen and follow the situation in the ASEAN region. as well as being able to respond The needs of the government according to the role of leading countries in the region in using air power to solve the situation in a timely manner.

- The Area of Responsibility of the Air Force is the area under the sovereignty of Thailand, including the area for monitoring the actions of aircraft that are considered to be Threat to the security of the Kingdom or may be a danger to the public according to Act on Treatment of aircraft that violate the 2010 law, which is specified with the Thailand Air Defense Identification Zone (TADIZ), representing a total area of 813,323.25 square kilometers. and the Thailand Flight Information Region (FIR), including the exclusive economic zone of Thailand (EEZ), representing a total area of 1,979,722 square kilometers. This area of responsibility is an important factor in developing capabilities. of all components of the Air Force to be able to carry out missions as specified by the state.



Picture ๑: Area of Responsibility of the Air Force (Area of Responsibility)

6. Scope of military operations at each level of conflict.

The Air Force must have adequate capabilities to protect national independence and sovereignty as well as maintain national air interests. and developing the country and helping the people Including other missions as assigned completely since normal conditions until the state of conflict or performing missions in all circumstances (Full Spectrum of Conflict) there



Picture ๒ Scope of military operations

Chapter 1 Security environment and challenges

Current and future threats and challenges will be an indicator. or setting goals for the Air Force to be used in considering capabilities desired military Accurate analysis will ensure effective force preparation. It has the capability appropriate to the needs, not too much or so little that it is not ready to respond to the need for the use of military force for national security, the current security environment until 2037, and the advancement of military technology throughout. Until the important driving forces affecting the military security dimension in the future will be identified as challenges (Challenges) that must be faced as follows.

1.1 Security challenges that Thailand will face until 2037

- Maintaining a balance in relations between various powers resulting from the competition in expanding influence of the United States, China, and Russia, resulting in changes from Find single-pole power to multi-pole power. The competition tends to intensify in every dimension. including politics, economy, technology, and military, including driving the Belt and China's Road Initiatives (BRI) and the United States' Indo-Pacific Strategy in the South China Sea and Mekong Subregion This may cause Thailand to face a situation of geopolitical and geoeconomic pressure . This is a challenging problem in a polarized world. Choose a side.

- Natural disasters that are becoming more severe due to climate change and environmental degradation Such as problems like smog/wildfires, drought, etc.

- Emerging infectious diseases that are difficult to predict Affecting connections all over the world Every sector needs to change old practices to a new format (New Normal). It affects the way everyone operates and behaves in their daily lives.

- cyber crime cyber terrorism and cyber warfare , such as espionage of information from government and private agencies.

Deceiving the public through social media Using malware (Malicious Software) to attack network systems and spy on and steal data.

- Conflict between state and state and between the state and non-state organizations. It will be a form of total war (Total War) that integrates military, economic power. Politics and information in warfare to achieve objectives By using advanced military technology such as fighter planes and long-range missiles. unmanned aerial vehicle armed unmanned aerial vehicle Weapons such as unmanned aerial vehicles (Loitering Munitions), detection systems and modern anti-aircraft systems are used to gain an advantage. War will not only affect the conflicting parties , but may also affect various regions of the country. world at large
- Capacity to care for the safety of Thai people in traditional conflict areas and is still unlikely to be resolved in the future, such as the problem of ownership claims in the South China Sea , the Korean Peninsula problem , the sovereignty problem over the strait/Taiwan island. Border issues between India and China Border problems between India and Pakistan Including conflict problems in the Middle East region
- Terrorism tends to occur in more urban areas , targeting targets that are easier to attack. and infrastructure
- space race that tends to increase and affects every country from the remains of satellite launch rockets and satellites that have expired, and the detection of opposing satellites. Satellite collision problem Interference with space operating system signals and destruction of space capabilities in the event of international conflict.
- The division into factions in the ASEAN community (Association of South East Asian Nations: ASEAN) is due to factors of differences in economic levels and differences in benefits received from expanding influence in the era of multipolar great powers, including the issue of northern sovereignty. Territories between countries in ASEAN that have adjacent borders.

- Unintended arms accumulation competition in the region From the necessity of each nation Continuously develop military power In order to have the ability to protect and maintain their national interests , including to achieve modernity on a par with disruptive technology, it may cause a deficit in military capabilities. Until it may lead to an inferior status in maintaining power. Negotiation results in the use of large military force. in the war between states There is still a chance that this will happen in the future.

- Border security problems For example, illegally crossing the border through natural channels. The whole process of leading Foreign workers and human trafficking Smuggling of illegal goods such as drugs Weapons and smuggled goods both by land and sea Illegal fishing in both the Gulf of Thailand and the Andaman Sea. including transnational crimes such as call center gangs that relies on the border area as a base of operations which is violent The situation is influenced by the clear differences in economic, social and political conditions of both bordering and non-contiguous countries.

- Problems in the southern border provinces There is still a lack of opportunities for economic development. To improve the living standards of the people in the area This is because the idea of separatism is still being cultivated. By using advanced technology For example, social media channels are a tool for driving further violence.

1.2 Driving forces affecting future stability

Thailand is likely to face security threats and strategic challenges in the future. The Air Force must therefore develop its capabilities and prepare itself. On the basis of uncertainty (Uncertainty) according to the concept of forecast (Foresight) from driving factors (Driving Force) in each aspect, including the social environment (Social), science, technology (Technology), economy (Economic) , environment (Environment)) Politics (Politic) and military, abbreviated as " STEEP-M " , details as follows

- **Social: Social aspect has important driving factors. together with**

- Aged Society affects the structure of the Royal Thai Air Force's workforce.

- The role of Thai women and equality in society As a result, the Air Force must promote the duties of women personnel in the Air Force even more.

- **Technology: In terms of technology, there are important driving factors including:**

- Trends, innovations/technological inventions that will change the battlefield in the future include Artificial Intelligence (AI), Autonomous Weapon Technology (Lethal Autonomous Weapon), Hypersonic Weapon Technology (Hypersonic Weapon), Direct Energy Weapon Technology (Direct Energy Weapon), Biotechnology (Biotechnology) and Quantum Technology (Quantum Technology)

- **Economic: On the economic side, there are important driving factors including:**

- Trade war (Trade War) between superpowers Affecting the world economic system and attempts to separate the supply chain (Decoupling Supply Chain) affecting the transmission and maintenance of military equipment procured from some countries. This is because it is not possible to conduct financial transactions with countries that are subject to economic sanctions (Economic Sanction) or blacklisting with banks (Blacklist).

- **Environment: The environmental aspect has important driving forces, consisting of**

- Global chaos, risks and immunity of Thailand from factors such as climate change and natural disasters which is likely to occur continuously and more violent is an important threat that affects national security and the role of the military in helping the people

- Energy shortage is a risk factor because military equipment still uses mainly fossil energy. This is often affected by fluctuations in world energy prices.

- The direction of the world is therefore towards a carbon-free society. Thailand has set goals. Aiming for carbon neutrality by the year 2050 and reducing greenhouse gas emissions to zero (Net Zero Emissions)
by the year 2608 . 2065) Therefore, military development goes hand in hand with the use of clean energy. Therefore, it is an important driving factor that must be continued.

- **Political: The political side has important driving forces.**

- The role of great powers in interfering and expanding influence is both a benefit and a threat at the same time, maintaining balance in international relations. therefore it is important To be able to control and manage the impacts that will occur. It is to prevent conflicts in specific areas in the form of proxy wars (Proxy War).

- The security environment in various regions which affects Security of Thailand and the Southeast Asian region especially the situation Conflict in the South China Sea and the Taiwan Strait area

- **Military: The military aspect has important driving forces, including:**

- Military capability development competition Countries in the ASEAN region are rushing to procure state-of-the-art weapons and equipment for data use in 2022. Military expenditures are in order: Indonesia, Vietnam, Myanmar, Thailand, Cambodia, Philippines, Malaysia, Laos, Singapore. Brunei Timor

1.3 Military risk assessment

It is a continuation of the implementation of the security environment both from forecasts (Forecast), trends (Trend) and predictions (Foresight). From driving forces (Driving Forces) used to analyze risks. military, taking into account the main mission of maintaining sovereignty and air security of Thailand That must protect and protect the nation's important balance point (Center of Gravity: COG) if it violates Thailand's air defense identification zone. (Thailand Air Defense Identification Zone) has a very high level of impact **(High)** which is shown in black **A significant level (Significant)** which is shown in red, **a medium level (Moderate)** which is shown in yellow, and **a low level (Low)** which is shown in green. There are principles from Impact The severity of the event (Consequence) ranges from acceptable , moderate , critical , and catastrophic . Including taking the chance of an event occurring (E vent Probability) according to the probability from low to high. into consideration, together with the results of military risk assessments By defining the definition as follows:

๑. High Impact : Total loss of capability and mission failure, such as an aircraft being attacked while parked.

๒. The impact is significant. (Significant) Significantly reduces the ability to perform missions according to normal operating standards.

๓. Intermediate effect (Moderate) Still able to operate but not completely.

๔. Low impact, no impact on operations.

Consequence	Very likely (~81%-100%)	Probability (~61%-80%)	Improbable (~21%-60%)	Highly Unlikely (~0%-20%)
Catastrophic: Effect: Degraded joint Force Readiness and Mission Capability; Unacceptable loss or damage	- Precision-guided Munition - War reserve Crisis (Internal Risk) - Low GBAD Capability (Internal Risk) - Satellite Imagery	- Terrorist attack - Fighter Gen 4.5+ - Low Night Operations Capability (Internal Risk)	- Unmanned combat aerial vehicle (UCAV) - Short/Medium Range Ballistic Missile	- Hypersonic weapon - Swarm Drones - WMD : Weapon of Mass Destruction
Critical: Effect: Significant degraded joint Force Readiness and Mission Capability; Severe, Injury, illness, loss, or damage	- Loitering munition - Energy Crisis, Fossil Fuels - FPV drone with munition - ACCS Attack - Cyber Attack	- Border Conflicts, Border disputes.	- Sanctions Policy; Logistics, Transfer Money (Internal Risk)	- Quantum Computing
Moderate: Effect: Somewhat degraded joint Force Readiness and Mission Capability; Minor, Injury, illness, loss, or damage	- Unguided rockets - Natural Disaster, Natural hazard impacting a vulnerable of RTAF. - Electro Magnetic Spectrum Operation /Passive	- South Thailand insurgency - Technology Dominance	- GPS Hacking - Internal Management; Difference types A/C (Internal Risk)	- Directed-energy weapon (DEW)
Negligible: Effect: Little or no impact to joint Force Readiness and Mission Capability; Minimal, Injury, loss, or damage	- Military Spy Satellite - Low Combat Skill (Warfighter) (Internal Risk) - Low Combat Support Skill (Internal Risk)	- Information Warfare		- Space Attack Technology (Space Battle)

Picture ๓ Military risk assessment of the air force

1.4 Required capabilities

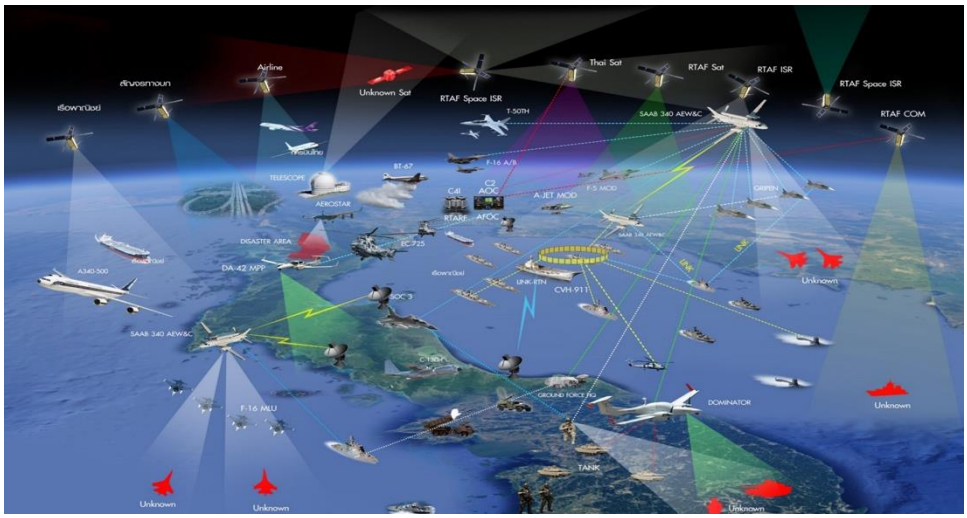
Desired Capability is the ability to respond to the Air Force. to military objectives and national interests Both in normal situations, crisis situations and war situations. which will be in the form of "Preparing force and using force" In normal conditions, preparing force is in the form of training. To achieve combat readiness (Force Readiness) as a deterrent power. and combat power When you have to use force The required capabilities can be classified into 3 types.

1. Core competencies to maintain sovereignty in the air space
2. joint capabilities To support joint operations with other agencies
3. Additional capabilities To strengthen the efficiency of core and joint capabilities

Key capabilities for maintaining air security include the ability to dominate the air in the area of responsibility. which includes Multi-purpose fighter aircraft with weapon systems Airborne warning radar both on the ground and in the air. Battle command and control system anti-aircraft weapons Including the war fighter (War Fighter) and the training aid system (Simulator). The above elements are the capabilities for area air defense (Area Air Defense).

Joint capabilities to support the operations of the Royal Thai Armed Forces or other agencies, such as joint operations between naval power and air power To gain or maintain an advantage at sea (Maritime Superiority) , counter sea (Counter Sea) or joint operations with land forces, such as counter land (Counter Land) through joint capabilities that have Efficiency will be achieved by focusing on developing operational capabilities that are network centric (Network Centric Operations). In addition, the Air Force places importance on supporting peace operations . joint humanitarian assistance and disaster relief joint logistics and others

Supplementary capabilities are other capabilities to enable operations. All air operations are effective, such as the ability to carry out intelligence operations, surveillance and reconnaissance (ISR), electronic warfare operations. Air transport (Airlift) Air news service Air medical repatriation (Aeromedical Evacuation) ground operations Refueling in the air (Air Refueling), special operations and personnel recovery operations , etc.



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Picture ๔ Table for analyzing the environment to reach the desired combat power. of the air force

Environmental conditions Security	effect (Opportunities +/ Obstacles -)	army operations	Required competencies	Required combat power of the air force
China and the United States compete in expanding influence. Strategic aspects in the South China Sea and Mekong Subregion	• Thailand receives economic benefits and technology transfer (+) • Thailand is under pressure Choose a side from the superpowers. /Request to use space to deploy forces (-) • Effects on navigation or air navigation in the region (-)	• Seeking cooperation from great powers without long-term commitments and conditions. • Maintain neutrality. By opening up to all parties in joint / mixed training. • Strengthening assurances of maritime and air safety in the region.	• Taking advantage of Procurement of military equipment of the superpowers through the policy of compensating the import of military equipment (Defense Offset) • Being a neutral country (Strategic Partnership) can be practiced with all parties. • Ability to operate without restrictions from major powers.	• The procurement of military equipment must be in the form of compensation or military exchange (Military Offset) in the case of a procurement project. of high value • Aircraft or other equipment for joint exercises with the United States, China, Russia, and India. • Air defense system Based on the network-centric operating concept and supporting maritime operations.

Environmental conditions Security	effect (Opportunities +/ Obstacles -)	army operations	Required competencies	Required combat power of the air force
Countries in Southeast Asia compete Accumulating weapons and developing advanced military technology	• There is an arms accumulation competition in the region, affecting the military balance. It may lead to an inferior position in negotiations, affecting the decision to use military force (-)	• The ability to strategic deterrence • Reducing paranoia. From a realist mindset towards regionalism (Regionalism)	• Network-centric operations. and a modern tactical data linkage system / Thai Armed Forces Headquarters can control the practice of Operations Center the armed forces effectively / Joint training with the Thai Army	Developing a combat force based on network-centric operations, consisting of the Air Domain, Cyber Domain and Space Domain , which has elements of Sensor, Network, Command and Control, Shooter, Human and Behavior, Support and Service.
border security problems and natural boundaries	• Conflict in overlapping claim areas could lead to limited armed clashes along the border between Thailand and its neighbors (-). • Transnational threats Illegal acts/ cross-border crimes	• It may be necessary to Use force to defuse situations and stop when illegal acts occur. • Use air power to support the armed forces and agencies. Security in order to gain		

Environmental conditions Security	effect (Opportunities +/ Obstacles -)	army operations	Required competencies	Required combat power of the air force
	have increased (-)	control of the air By patrolling and using weapons Light size with high precision		
Problems of conflicts between geographic states in different areas around the world	• Business groups and the welfare of Thai people abroad are not safe (-)	• Evacuation of Thai people from conflict areas.	• It has a flight range supporting intercontinental flights, able to travel in various regions such as within the country, the ASEAN region, Asia, Europe and/or the Americas.	• long-range transport aircraft, as well as Transport aircraft type 19 (A 340)
Harm to the center of balance economic area and important infrastructure	• reduce capacity in military operations • Cause damage to the economy (Confidence tourism) and	• Intelligence integration • Defense of military bases • Area Defense in the air against important	• In- depth intelligence capabilities • Can intelligently protect military installations.	• Alarm notification system • Smart Air Base Security

Environmental conditions Security	effect (Opportunities +/ Obstacles -)	army operations	Required competencies	Required combat power of the air force
	public services of the country as a whole (-)	economic areas and important infrastructure by supporting the counter - terrorism center	• Detect, intercept, and destroy behavior that aims to threaten important areas. Focusing on the airport area and terrorism related to aircraft and unmanned aerial vehicles	
Cyber threats are becoming more severe and infrastructure systems are being attacked more.	• May be attacked by critical infrastructure systems. and security agencies (-) • May affect the command and control system. Damage occurred (-)	• cyber operations Reactive/Proactive	• Preventing and detecting attack attempts. Operational networks and information systems for support	• Cyber surveillance, response, and protection systems for information systems for operations and support • Cyber Intelligence Surveillance and Reconnaissance System

Environmental conditions Security	effect (Opportunities +/ Obstacles -)	army operations	Required competencies	Required combat power of the air force
Regional space race	• Important areas of Thailand are being spied on (-) • Take advantage of space to acquire intelligence information covering the area of operations (+)	• Performing space reconnaissance missions (Space Situation Awareness) and space traffic control (Space Traffic Management). • Space Intelligence To obtain a common target accounting file of important areas.	• Monitoring and reconnaissance of low orbit satellites orbiting over Thailand. • Space intelligence (IMINT, SIGINT, ELINT).	• Integrate space cooperation with the government, private sector, and educational institutions. • Space intelligence system.
Natural disasters that are becoming more severe from climate change and environmental degradation	• Affects the occupation and well-being of the people (-) • There have been more severe disasters throughout the country. and abroad (-)	• National development/Improving people's quality of life • Disaster relief assistance immediately after the disaster occurs until the recovery stage.	• Application of the capabilities of military equipment to develop the country and help the people.	• Aircraft and equipment that can be used in two ways (military and civilian).

Environmental conditions Security	effect (Opportunities +/ Obstacles -)	army operations	Required competencies	Required combat power of the air force
Dependence on foreign technology	• The army is affected both directly and indirectly from the country's conditions of use owner of equipment	• Guidelines for procuring military equipment that are free from foreign policy requirements • Focus on research and development of military equipment systems that can be carried out by oneself, leading to sustainable self-reliance	• Leading research in the Armed Forces and in Thailand that has been certified to standards equipment Let's continue to expand for Produced and packaged for use at military rates.	• Main equipment that is not restricted in terms of use by the Arms Control Act of the country of manufacture (Arms Control Act). • Military equipment that can be produced and used within the country.
Fluctuations in fossil fuel prices and the world's direction towards a carbon-free society	• Flight hours in training and flight missions	• Reduce the use of fossil fuels • Seek other alternative energy sources.	• Adopting technology to reduce hours of flight training and ground operations. • Energy cooperation	• Management To reduce the impact from fossil fuel prices

Chapter 2 Concepts for developing the Air Force

2.1 Principles for using air power

Principles are beliefs that are the best way to proceed in any matter. It comes from a deep understanding of the nature, characteristics, capabilities and limits of air power. along with a thorough study of the history and lessons learned from the use of air power in the past or even the culture of the nation economic status or the power of the country in various fields, all have an effect on the development of principles in the use of air power. The Air Force deems it appropriate to publish important principles used in preparing the white paper as follows:

- The principles of air warfare are principles that military leaders of all times have applied to win wars. This principle is tailored to the nature, mission, and technology of airpower, including unity of command. Principles of objective: offensive, concentration of forces, strategic execution, savings of forces, safety, attack, principle of simplicity, unity of effort. and morale of the personnel in the unit

- Dominating the air Refers to the level of air control of our air power that is superior (Air Superiority). and influence the enemy's air power at the desired time and space. without the intervention of enemy air power It provides freedom of action for our land, sea, air and space forces. Ground warfare will not be successful. If ground forces and support units are continually bombarded by enemy air attacks, The Air Force therefore must have the ability to dominate the air.

- Total command distributed control Separate operations (Centralized Command, Distributed Control, Decentralized Execution) Air power is expensive, causing limited numbers. Meanwhile, the demand for air power always exceeds the available supply. In order to use air power to achieve military objectives. The Air Force must prioritize the urgency of its operations. which requires understanding In the overall picture of the war Total command Distribute control so leaders can focus on prioritizing, urgency, setting direction and facilitating action. All air

operations were successful. Then separate operations by assigning duties and responsibilities to subordinate commanders in order to create initiative. Responding to changing situations and tactical weakness as well

- Network Centric Operations (NCO) aims to provide friendly information superior to enemy information (Information Superiority) , which is achieved by connecting sensor systems. decision maker and operating units together into a network Exchange information with each other To gain understanding of the common situation Decision makers are fully aware of up-to-date information on both enemy and friendly sides. Command decisions are made quickly and accurately. The destination unit also has a coordinated understanding with the northern unit, which receives information from all directions. Carrying out missions is always efficient and safe.

2.2 Air Force strategy

The Air Force believes in network-centric operations (NCO). It will make the Air Force's missions most efficient. By increasing the speed of the decision cycle (Observe-Orient-Decide-Act : OODA Loop) by exchanging information. News (Information) and situational awareness (Situation Awareness) shared through a network (Network) that is strong and efficient, allowing commanders to have accurate and complete information. Able to make decisions and give orders to Operators/operating units (Shooters) correctly and in a timely manner. In addition, information and situational awareness are shared. It also helps to multiply the capabilities of practitioners/operating units. Able to perform a variety of missions quickly and more efficient The Royal Thai Air Force's 20-year strategy (2018 - 2037) therefore focuses on development. 3 important dimensions include

- **The air dimension (Air Domain) consists of**
  - Command and Control : C2
  - Detection system (Sensor)
  - Practitioner/Practice unit (Shooter)
  - Network system (Network)
  - Support and Service
  - Personnel and work behavior (Human & Behavior)
- **Cyber Domain**
- **Space dimension (Space Domain)**

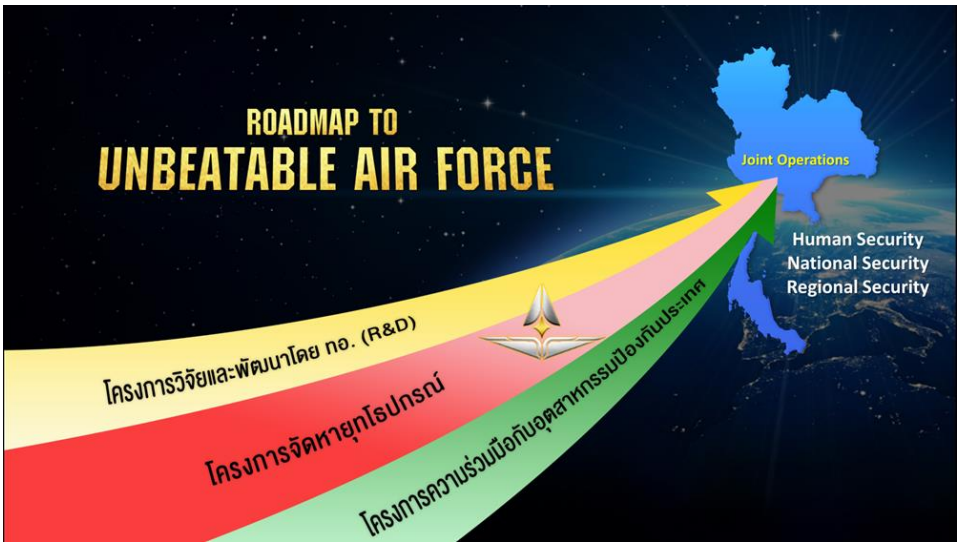
2.3 Roadmap to Unbeatable Air Force

Guidelines for developing a strong air force and efficiency, starting with threat analysis and future challenges clearly for the Air Force Specify desired military capabilities able to respond to threats or challenges in the future, then determine a strong combat force structure Full of quality and with the right amount. Once the combat force structure is complete The Air Force must improve the organization of government agencies, both the force preparation and force use parts. to be compact Increase efficiency by reducing unnecessary costs. and use existing resources together for maximum benefit And in the final step, it is the preparation of work plans/projects according to the Air Force strategy. To strengthen combat readiness to achieve the desired capabilities and have balance within various parts. of the air force Covers operations in all dimensions. The development plan in the 2024 White Paper will be a development plan in all areas. To balance the development of all elements of the Air Force Create clear directions in developing into a strong air force and efficient (Unbeatable Air Force)



Picture ๕ Roadmap to Unbeatable Air Force - 1

In addition to that The Air Force has also specified a format for implementing the plan. or various development projects divided into 3 forms according to the concept of Roadmap to Unbeatable Air Force : Project to procure weapons and equipment cooperation project with the national defense industry and projects from research and development of the Air Force



Picture ๖: Roadmap to Unbeatable Air Force - 2

Type 1 is a project to procure military equipment from military equipment manufacturers who have received Standard certification use military technology reliable and must accept the conditions of the compensation policy importation of military equipment (Defense Offset Policy) and technology transfer As well as rights or copyrights should be granted to the Air Force and/or defense industry companies. In further developing equipment for maximum benefit to the Air Force Which is shown in **red.**

Type 2 is a project to develop or procure military equipment. which gives importance to the defense industry according to its potential and capabilities under military standards in order to reduce dependency on foreign countries It also creates jobs within the country and increases the country's competitiveness, which is shown in **green.**

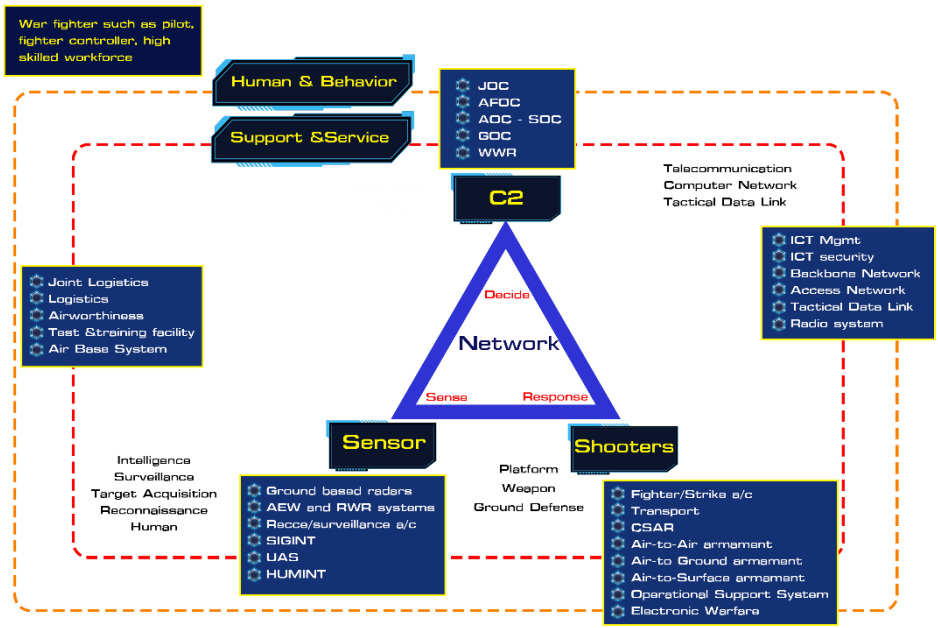
Type 3 is the research and development project for military equipment. or the production of military equipment by the Air Force or the employment of the defense industry to produce research products that have passed Military standard certification This creates long-term sustainability for the Air Force and the country. which is shown in **yellow**

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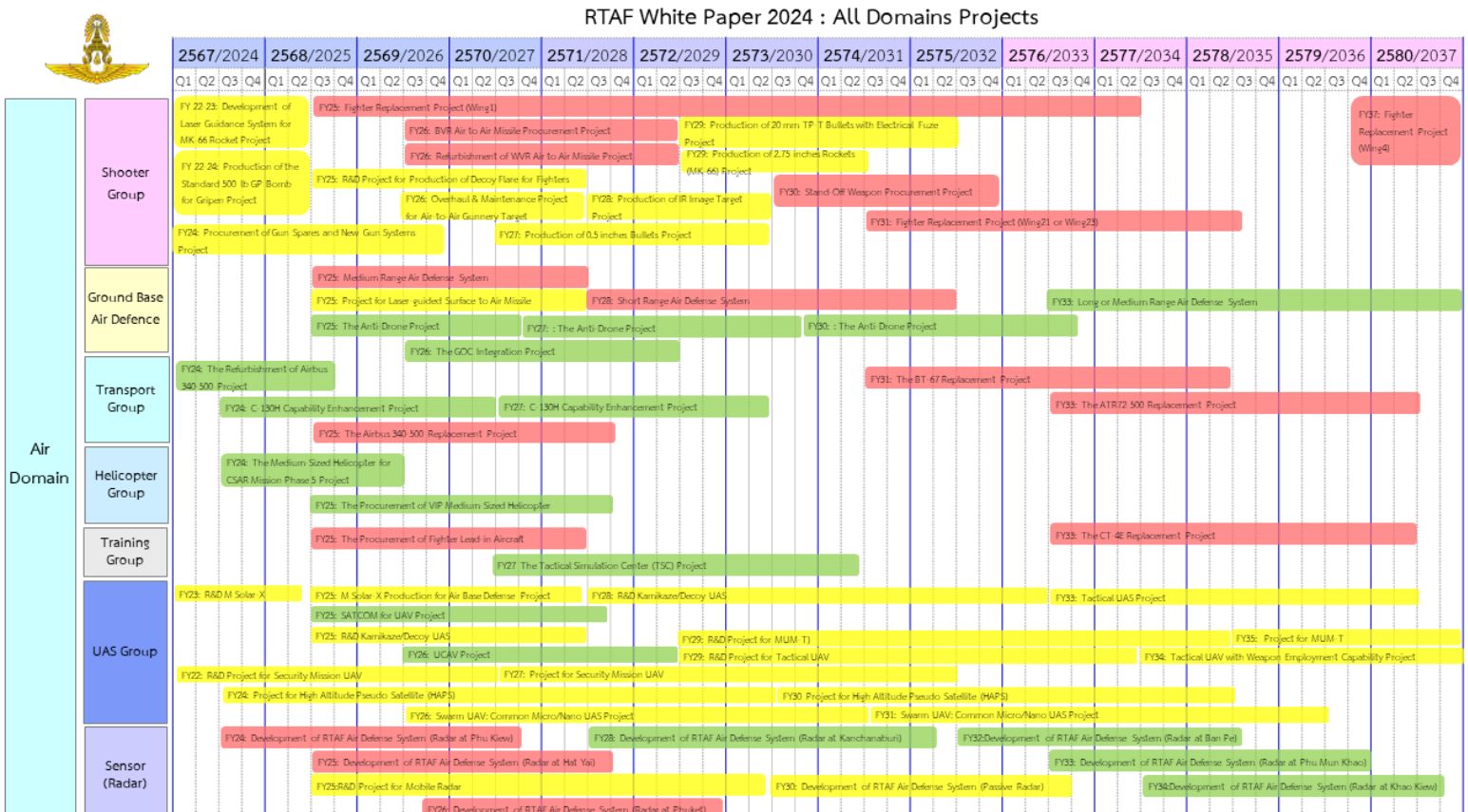
Chapter 3 Air Force plans/projects

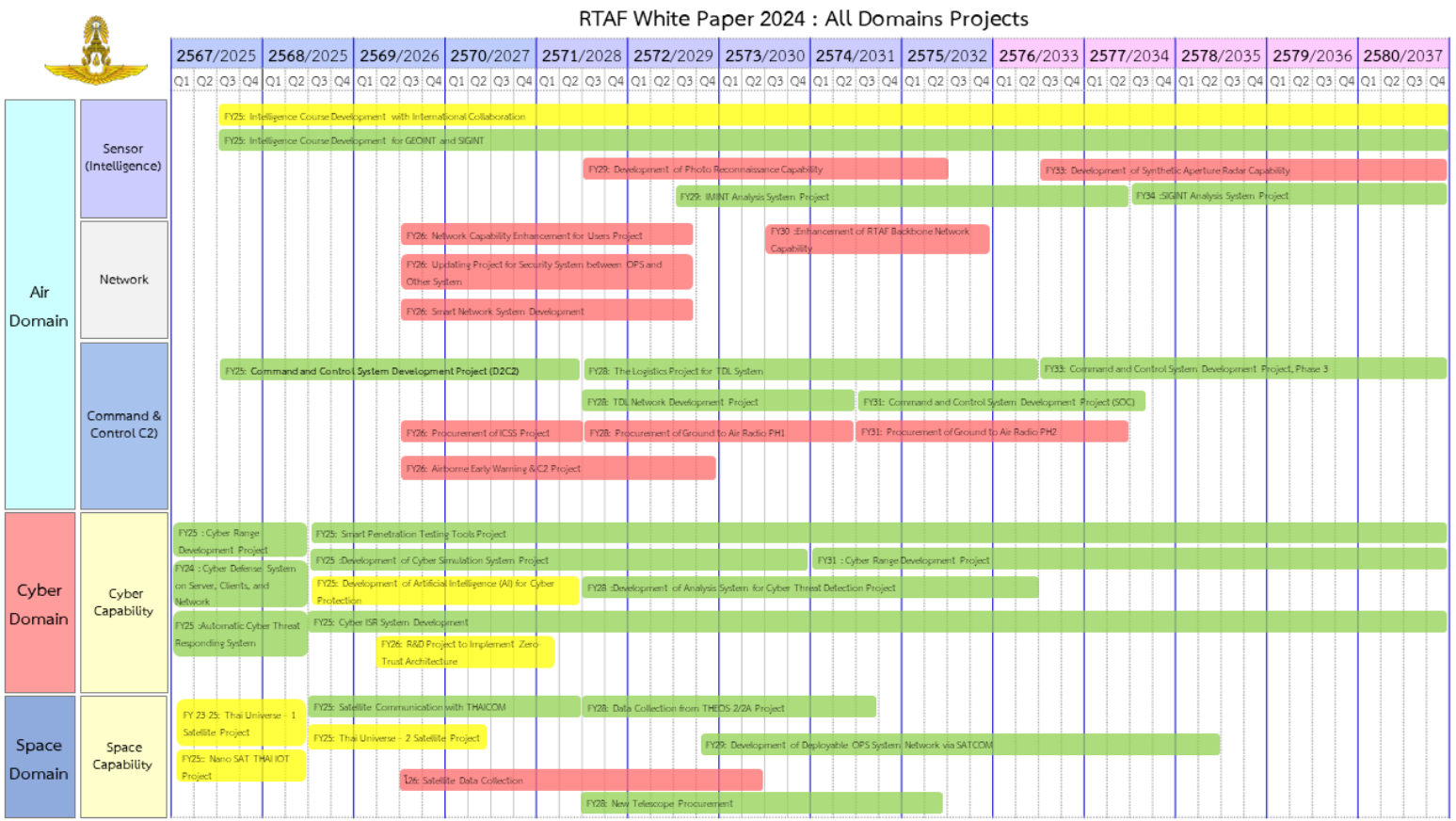
principles and development plans for the Air Force in all dimensions

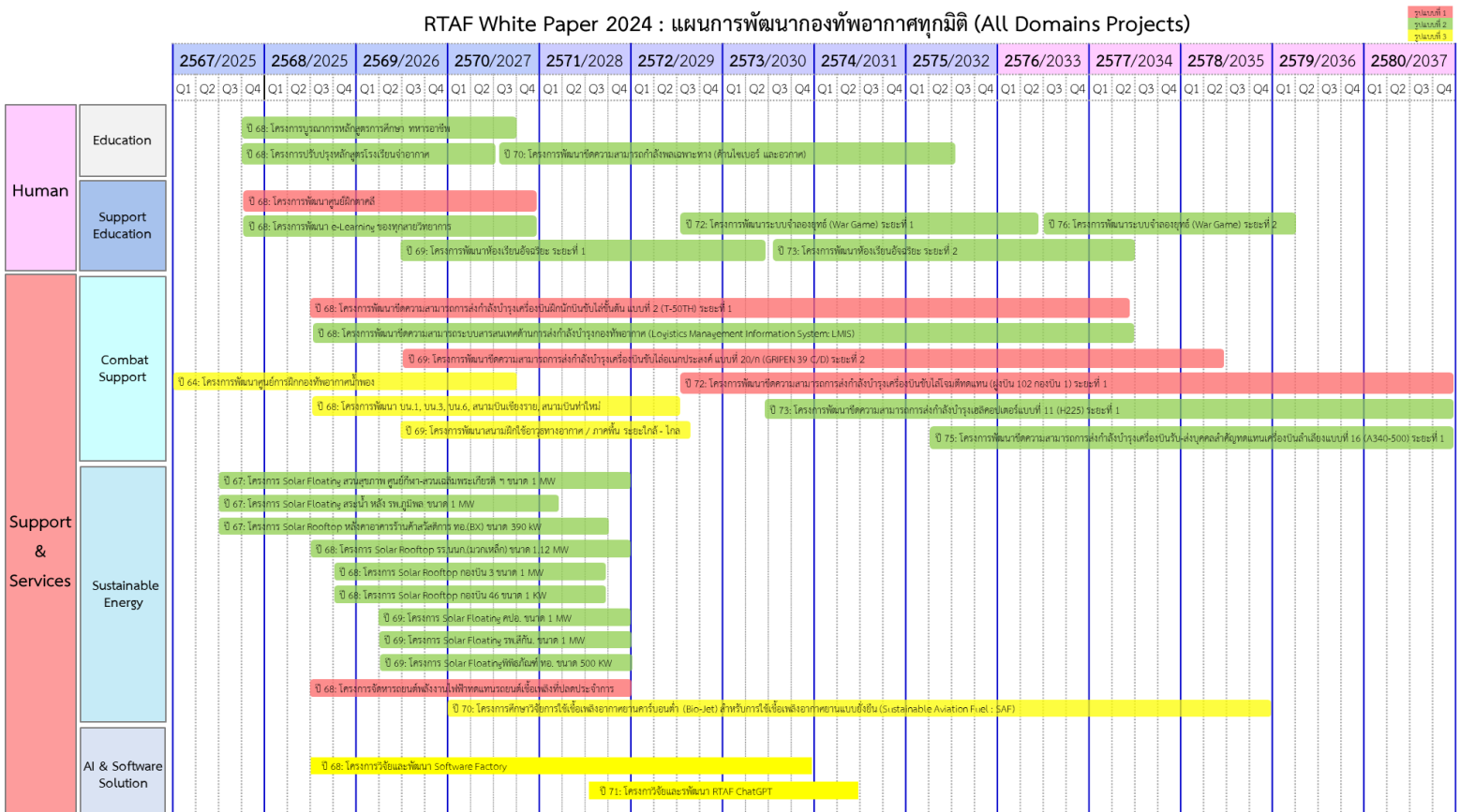
From the analysis of the security environment and ideas for developing the Air Force This resulted in a development plan in every dimension from 68 - 80 to serve as a framework for organizing the Air Force development project. In the 2024 White Paper, development is divided into 8 areas: Shooter, Sensor, C2, Network, Human & Behavior, Support & Service, Cyber and Space . In addition, the color of the text boxes in the table will follow the guidelines. Development of the Air Force (Roadmap to Unbeatable Air Force) as follows:

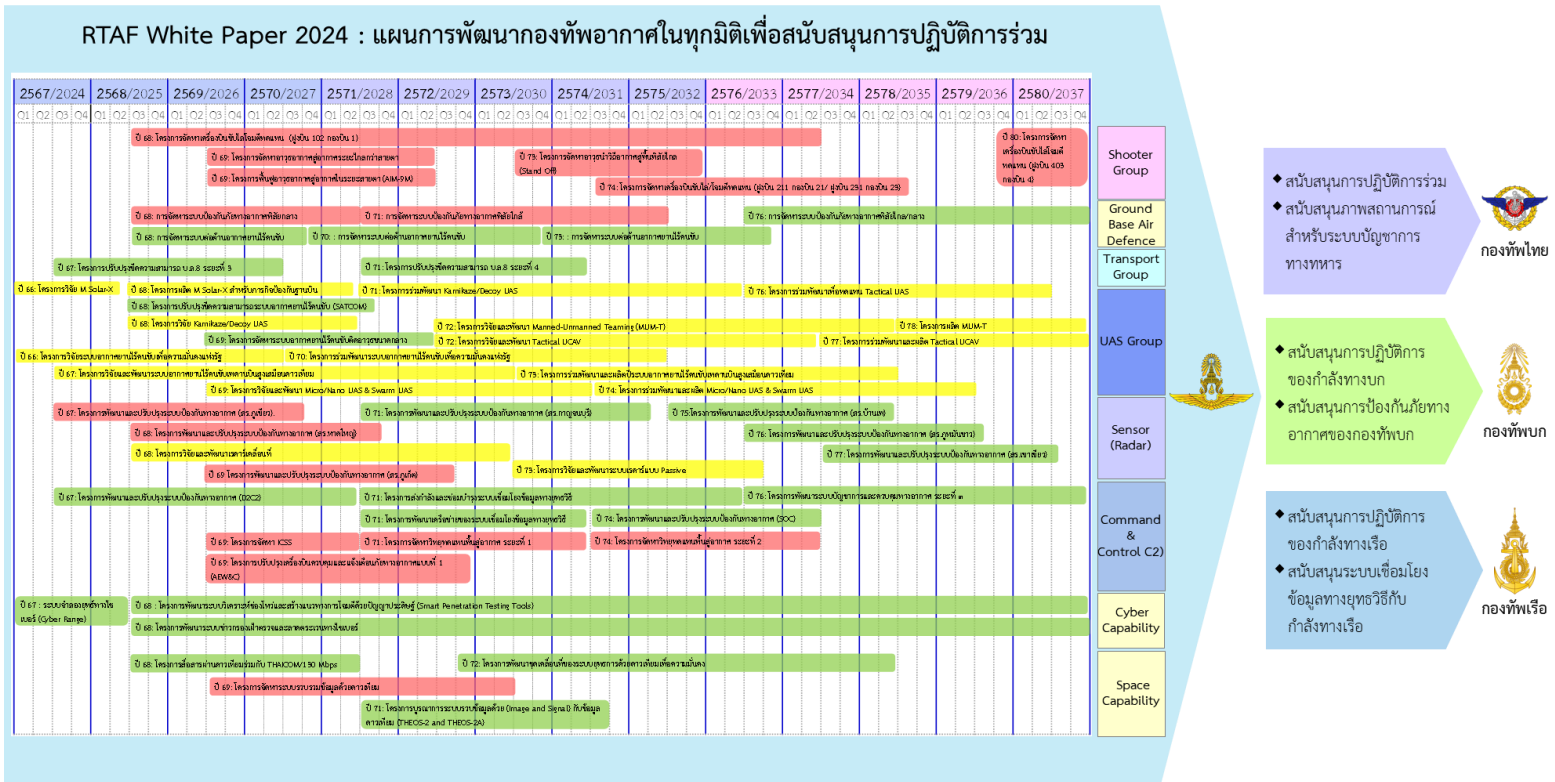


Picture ๗ Developing network-centric operations


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2578/2035
2579/2036
2580/2037
Air Domain
Shooter Group
Ground Base Air Defence
Transport Group
Helicopter Group
Training Group
UAS Group
Sensor (Radar)
FY 22 23: Development of Laser Guidance System for MK 66 Rocket Project
FY 22 24: Production of the Standard 500 lb GP Bomb for Gripen Project
FY24: Procurement of Gun Spares and New Gun Systems Project
FY25: Fighter Replacement Project (Wing1)
FY26: BVR Air to Air Missile Procurement Project
FY26: Refurbishment of WVR Air to Air Missile Project
FY25: R&D Project for Production of Decoy Flare for Fighters
FY26: Overhaul & Maintenance Project for Air-to-Air Gunnery Target
FY27: Production of 0.5 inches Bullets Project
FY29: Production of 20 mm TP-T Bullets with Electrical Fuze Project
FY29: Production of 2.75 Inches Rockets (MK-66) Project
FY28: Production of IR Image Target Project
FY30: Stand-Off Weapon Procurement Project
FY31: Fighter Replacement Project (Wing21 or Wing23)
FY37: Fighter Replacement Project (Wing4)
FY25: Medium Range Air Defense System
FY25: Project for Laser-guided Surface to Air Missile
FY28: Short Range Air Defense System
FY33: Long or Medium Range Air Defense System
FY25: The Anti-Drone Project
FY27: : The Anti-Drone Project
FY30: : The Anti-Drone Project
FY26: The GOC Integration Project
FY24: The Refurbishment of Airbus 340-500 Project
FY24: C-130H Capability Enhancement Project
FY27: C-130H Capability Enhancement Project
FY31: The BT-67 Replacement Project
FY33: The ATR72-500 Replacement Project
FY25: The Airbus 340-500 Replacement Project
FY28: The Medium-Sized Helicopter for CSAR Mission Phase 5 Project
FY25: The Procurement of VIP Medium-Sized Helicopter
FY25: The Procurement of Fighter Lead-in Aircraft
FY33: The CT-4E Replacement Project
FY27: The Tactical Simulation Center (TSC) Project
FY23: R&D M-Solar-X
FY25: M-Solar-X Production for Air Base Defense Project
FY25: SATCOM for UAV Project
FY25: R&D Kamikaze/Decoy UAS
FY26: UCAV Project
FY22: R&D Project for Security Mission UAV
FY24: Project for High Altitude Pseudo Satellite (HAPS)
FY26: Swarm UAV: Common Micro/Nano UAS Project
FY28: R&D Kamikaze/Decoy UAS
FY29: R&D Project for MUM-T
FY29: R&D Project for Tactical UAV
FY27: Project for Security Mission UAV
FY30: Project for High Altitude Pseudo Satellite (HAPS)
FY31: Swarm UAV: Common Micro/Nano UAS Project
FY33: Tactical UAS Project
FY35: Project for MUM-T
FY34: Tactical UAV with Weapon Employment Capability Project
FY24: Development of RTAF Air Defense System (Radar at Phu Kiew)
FY25: Development of RTAF Air Defense System (Radar at Hat Yai)
FY25:R&D Project for Mobile Radar
FY26: Development of RTAF Air Defense System (Radar at Phuket)
FY28: Development of RTAF Air Defense System (Radar at Kanchanaburi)
FY30: Development of RTAF Air Defense System (Passive Radar)
FY32:Development of RTAF Air Defense System (Radar at Ban Pe)
FY33: Development of RTAF Air Defense System (Radar at Phu Mun Khao)
FY34:Development of RTAF Air Defense System (Radar at Khao Kiew)


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2577/2034
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2579/2036
2580/2037
Air Domain
Sensor (Intelligence)
Network
Command & Control C2)
Cyber Domain
Cyber Capability
Space Domain
Space Capability
FY25: Intelligence Course Development with International Collaboration
FY25: Intelligence Course Development for GEOINT and SIGINT
FY29: Development of Photo Reconnaissance Capability
FY33: Development of Synthetic Aperture Radar Capability
FY29: IMINT Analysis System Project
FY34 :SIGINT Analysis System Project
FY26: Network Capability Enhancement for Users Project
FY30 :Enhancement of RTAF Backbone Network Capability
FY26: Updating Project for Security System between OPS and Other System
FY26: Smart Network System Development
FY25: Command and Control System Development Project (D2C2)
FY28: The Logistics Project for TDL System
FY33: Command and Control System Development Project, Phase 3
FY28: TDL Network Development Project
FY31: Command and Control System Development Project (SOC)
FY26: Procurement of ICSS Project
FY28: Procurement of Ground to Air Radio PH1
FY31: Procurement of Ground to Air Radio PH2
FY26: Airborne Early Warning &C2 Project
FY25 : Cyber Range Development Project
FY25: Smart Penetration Testing Tools Project
FY25 :Development of Cyber Simulation System Project
FY31 : Cyber Range Development Project
FY24 : Cyber Defense System on Server, Clients, and Network
FY25: Development of Artificial Intelligence (AI) for Cyber Protection
FY28 :Development of Analysis System for Cyber Threat Detection Project
FY25 :Automatic Cyber Threat Responding System
FY25: Cyber ISR System Development
FY26: R&D Project to Implement Zero-Trust Architecture
FY 23 25: Thai Universe - 1 Satellite Project
FY25: Satellite Communication with THAICOM
FY28: Data Collection from THEOS 2/2A Project
FY25: Thai Universe - 2 Satellite Project
FY29: Development of Deployable OPS System Network via SATCOM
FY25:: Nano SAT THAI IOT Project
T26: Satellite Data Collection
FY28: New Telescope Procurement


RTAF White Paper 2024 : แผนการพัฒนากองทัพอากาศทุกมิติ (All Domains Projects)
รูปแบบที่ 1
รูปแบบที่ 2
รูปแบบที่ 3
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Q1 Q2 Q3 Q4
Human
Education
Support Education
Support & Services
Combat Support
Sustainable Energy
AI & Software Solution
ปี 68: โครงการบูรณาการหลักสูตรการศึกษา ทหารอาชีพ
ปี 68: โครงการปรับปรุงหลักสูตรโรงเรียนจ่าอากาศ
ปี 70: โครงการพัฒนาขีดความสามารถกำลังพลเฉพาะทาง (ด้านไซเบอร์ และอวกาศ)
ปี 68: โครงการพัฒนาศูนย์ฝึกทางไกล
ปี 68: โครงการพัฒนา e-Learning ของทุกสายวิทยาการ
ปี 72: โครงการพัฒนาระบบจำลองยุทธ์ (War Game) ระยะที่ 1
ปี 76: โครงการพัฒนาระบบจำลองยุทธ์ (War Game) ระยะที่ 2
ปี 69: โครงการพัฒนาห้องเรียนอัจฉริยะ ระยะที่ 1
ปี 73: โครงการพัฒนาห้องเรียนอัจฉริยะ ระยะที่ 2
ปี 68: โครงการพัฒนาขีดความสามารถการส่งกำลังบำรุงเครื่องบินฝึกนักบินขับไล่ชั้นต้น แบบที่ 2 (T-50TH) ระยะที่ 1
ปี 68: โครงการพัฒนาขีดความสามารถระบบสารสนเทศด้านการส่งกำลังบำรุงกองทัพอากาศ (Logistics Management Information System: LMIS)
ปี 69: โครงการพัฒนาขีดความสามารถการส่งกำลังบำรุงเครื่องบินขับไล่อเนกประสงค์ แบบที่ 20/n (GRIPEN 39 C/D) ระยะที่ 2
ปี 64: โครงการพัฒนาศูนย์การฝึกกองทัพอากาศหน้าทอง
ปี 72: โครงการพัฒนาขีดความสามารถการส่งกำลังบำรุงเครื่องบินขับไล่โจมตีทดแทน (ฝูงบิน 102 กองบิน 1) ระยะที่ 1
ปี 68: โครงการพัฒนา บน.1, บน.3, บน.6, สนามบินเชียงราย, สนามบินหัวหิน
ปี 73: โครงการพัฒนาขีดความสามารถการส่งกำลังบำรุงเฮลิคอปเตอร์แบบที่ 11 (H225) ระยะที่ 1
ปี 69: โครงการพัฒนาสนามฝึกใช้อาวุธทางอากาศ / ภาคพื้น ระยะใกล้ - ไกล
ปี 75: โครงการพัฒนาขีดความสามารถการส่งกำลังบำรุงเครื่องบินรับ-ส่งบุคคลสำคัญทดแทนเครื่องบินลำเลียงแบบที่ 16 (A340-500) ระยะที่ 1
ปี 67: โครงการ Solar Floating สวนสุขภาพ ศูนย์กีฬา-สวนเฉลิมพระเกียรติ ฯ ขนาด 1 MW
ปี 67: โครงการ Solar Floating สระน้ำ หลัง รพ.ภูมิพล ขนาด 1 MW
ปี 67: โครงการ Solar Rooftop หลังคาอาคารร้านค้าสวัสดิการ ทอ.(BX) ขนาด 390 kW
ปี 68: โครงการ Solar Rooftop รร.นนก.(มวกเหล็ก) ขนาด 1,12 MW
ปี 68: โครงการ Solar Rooftop กองบิน 3 ขนาด 1 MW
ปี 68: โครงการ Solar Rooftop กองบิน 46 ขนาด 1 KW
ปี 69: โครงการ Solar Floating คปอ. ขนาด 1 MW
ปี 69: โครงการ Solar Floating รพ.สังกัน. ขนาด 1 MW
ปี 69: โครงการ Solar Floating ที่พักข้าราชการ ทอ. ขนาด 500 KW
ปี 68: โครงการจัดหารถยนต์พลังงานไฟฟ้าทดแทนรถยนต์เชื้อเพลิงที่ปลดประจำการ
ปี 70: โครงการศึกษาวิจัยการใช้เชื้อเพลิงอากาศยานสำหรับการใช้เชื้อเพลิงอากาศยานแบบยั่งยืน (Sustainable Aviation Fuel : SAF)
ปี 68: โครงการวิจัยและพัฒนา Software Factory
ปี 71: โครงการวิจัยและพัฒนา RTAF ChatGPT


RTAF White Paper 2024 : แผนการพัฒนากองทัพอากาศในทุกมิติเพื่อสนับสนุนการปฏิบัติการร่วม
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2580/2037
Shooter Group
Ground Base Air Defence
Transport Group
UAS Group
Sensor (Radar)
Command & Control C2)
Cyber Capability
Space Capability
◆สนับสนุนการปฏิบัติการร่วม
◆สนับสนุนภาพสถานการณ์สำหรับระบบบัญชาการทางทหาร
กองทัพไทย
◆สนับสนุนการปฏิบัติการของกำลังทางบก
◆สนับสนุนการป้องกันภัยทางอากาศของกองทัพบก
กองทัพบก
◆สนับสนุนการปฏิบัติการของกำลังทางเรือ
◆สนับสนุนระบบเชื่อมโยงข้อมูลทางยุทธวิธีกับกำลังทางเรือ
กองทัพเรือ

Annex

The development plan for the Royal Thai Air Force between the years 2024 to 2037 includes key projects covering all domains of the Air Force, as indicated by the project codes in the components shown in the table below. Please note that project names/plans, details, or adjustments may be modified annually to align with the situation and budget framework for each respective year.

Domain	Main Group	Type	Sub Type
Air Domain Code: AF01	Shooter-01	Fighter-01	Platform-01, Weapon-02
		GBAD-02	SHORAD/CIWS-01, MRAD-02, LRAD-03, C2-04
		Transport-03	Long-haul-01, Short-haul-02
		Helicopter-04	CSAR-01, Airlift-02
		Training-05	Platform-01, Simulator-02
		UAS-06	CAT1(Small)-01, CAT2-02
	Sensor-02	Radar-01	Air Radar-01, Space Radar-02
		Intelligence-02	Ground-01, Air-02, Space-03
	Network-03	None-00	Reachability-01, Security-02, AI Backbone-03
	C2-04	None-00	Air-01, Ground-02
	Human&Behavior-05	Education-01	
		Support-02	
	Support&Service-06	Combat-01	Logistics-01 and Infrastructure-02
		Energy-02	Rooftop-01, Floating-02, CO2-03
		Software-03	Ops-01, Support-02
Cyber Domain Code: AF02	Defence-01		
	ISR-02		
Space Domain Code: AF03	SSA-01 STM-02		

Air Domain

Shooter Group

Fighter Replacement Project

1. Shooter Group, Code AF01010101
2. Project Details (FY 2025 - 2034)
   - Procurement of new fighter fleet to replace the RTAF aging F-16 fighter, stationing at the 102 Squadron, Wing 1 (Korat). The acquisition includes a total of 12 - 14 aircrafts along with equipment, training aids, spare parts, weapon systems, and ground support equipment, as well as related training.
3. Project format in accordance with the Roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Fighter Replacement Project

1. Shooter Group, Code AF01010101
2. Project Details (FY 2037 - 2046)
   - Procurement of new fighter fleet to replace the RTAF aging F-16 fighter, stationing at the 403 Squadron, Wing 4 (Takhli). The acquisition includes a total of 12 - 14 aircrafts along with equipment, training aids, spare parts, weapon systems, and ground support equipment, as well as related training.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Fighter Replacement Project

1. Shooter Group, Code AF01010101
2. Project Details (FY 2031 - 2035)
   - Procurement of new fighter fleet to replace the RTAF F-5 E/F fighter at the 211 Squadron, Wing 21 (Ubon) or the RTAF Alpha Jet at the 231 Squadron, Wing 23 (Ubon). The acquisition includes a total of 12 - 14 aircrafts along with equipment, training aids, spare parts, weapon systems, and ground support equipment, as well as related training.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Stand-Off Weapon Procurement Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2030 - 2032)
   - Procurement of new stand-off weapon with the range of not less than 30 NM
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Refurbishment of WVR Air to Air Missile Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2026 - 2029)
   - Refurbishment of the existing incomplete AIM-9M in the RTAF inventory to make up the planned war reserve.

3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

BVR Air to Air Missile Procurement Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2026 - 2029)
   - Procurement of new BVR missile with the range of not less than 50 NM
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Development of Laser Guidance System for MK-66 Rocket Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2022 - 2023)
   - Feasibility studies about the development of laser guidance system for 2.75 inches rocket, conducted by researchers from NKRAFA and other organizations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Production of the Standard 500 lb GP Bomb for Gripen Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2022 - 2024)

- Production of GP 500 lb bomb, certified by FMV, for using on Gripen C/D. The project involves the procurement of bombshell and knowledge transfer in bomb production from foreign or domestic OEM.

3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

R&D Project for Production of Decoy Flare for Fighters

1. Shooter Group, Code AF01010102
2. Project Details (FY 2025 - 2028)
   - R&D production of Decoy Flare for using on the RTAF fighters. The project is conducted with original pyrotechnic knowledge as well as using domestic supplies.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Production of 20 mm TP-T Bullets with Electrical Fuze Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2029 - 2032)
   - Production of 20 mm TP-T bullets with electrical fuze. The TP-T bullets allow pilots to see the bullets trajectory.
   - Collaboration with other services or local defense industries to provide supplies.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Procurement of Gun Spares and New Gun Systems Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2024 - 26)
   - The project is to procure the gun spares from domestic providers for maintenance and refurbishment purpose. Additional gun could be procured to replace the unserviceable through this project as well as the development of gun system with the domestic defense industries.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Production of 0.5 inches Bullets Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2027 - 30)
   - Production of 0.5 inches bullets for tactical and training employment with the M3P gun
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Overhaul & Maintenance Project for Air-to-Air Gunnery Target

1. Shooter Group, Code AF01010102
2. Project Details (FY 2026 - 28)
   - The Air-to-Air Gunnery (AAG) target is consisted of 4 main components i.e. Cockpit Display, RM-30B, TDK-39 and Visual Augmenter (VA). This project is to procure the system spares and repair as well as overhaul the system before returning to service.

3. Project format in accordance with the roadmap
    - Procurement Project
    - Defense Industries Collaboration Project
    - RTAF R&D Project ☑

Production of IR Image Target Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2028 - 30)
    - This project is to produce the realistic simulated IR Image target to be used for the live firing of modern IR weapon. The simulated targets shall be produced from local material and supplies for the system sustainability.
3. Project format in accordance with the roadmap
    - Procurement Project
    - Defense Industries Collaboration Project
    - RTAF R&D Project ☑

Production of 2.75 inches Rockets (MK-66) Project

1. Shooter Group, Code AF01010102
2. Project Details (FY 2029 - 31)
    - The project is to produce 2.75 inches rocket (MK-66) to be employed on the RTAF Alpha Jet and AT-6. After initial certified productions, the plan is to continue the development for integration on UAV, supporting the fire-fighting mission, and R&D about the solid rocket motor.
3. Project format in accordance with the roadmap
    - Procurement Project
    - Defense Industries Collaboration Project
    - RTAF R&D Project ☑

Short Range Air Defense System

1. Shooter Group, Code AF01010201
2. Project Details (FY 2028 - 32)
   - Procurement of Short-Range Air Defense System for point defense concept in the form of Close In Weapon System
   - The system is the integration of multiple effectors i.e. Gun-Based, Missile-Based and Laser-Based weapon to counter various threat with high effectiveness.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Project for Laser-guided Surface to Air Missile

1. Shooter Group, Code AF01010201
2. Project Details (FY 2025 – 28)
   - R&D project for laser-guided Surface to Air Missile (Short Range Air Defense)
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Medium Range Air Defense System

1. Shooter Group, Code AF0101020203
2. Project Details
   - Phase 1 (FY 2025 – 28) Procurement of Medium Range Air Defense System with the Surface to Air Missile range not less than 30 NM
   - Phase 2 (FY 2033 – 37) Medium Range or Long-Range Air Defense System

3. Project format in accordance with the roadmap
   - Procurement Project ☑ (Phase 1)
   - Defense Industries Collaboration Project ☑ (Phase 2)
   - RTAF R&D Project

The GOC Integration Project

1. Shooter Group, Code AF01010204
2. Project Details (FY 2026 - 29)
   - The project is to integrate Ground Operations Center (GOC) with all the RTAF base defense and GBAD units, as well as Special OPS units. The new GOC shall have the capability of Battle Management C4I and integrating all ground Sensor and Effectors.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

The Anti-Drone Project

1. Shooter Group, Code AF01010201
2. Project Details (FY 2025 - 27) (FY 2027 - 30) (FY 2030 - 33)
   - Procurement of Anti Drone/UAS System in 3 phases
   - The project includes the continuous Operations & Development to reduce the technical limitations and enhance the system performance and its operators.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Transport Group

The Refurbishment of Airbus 340-500 Project

1. Shooter Group, Code AF01010301
2. Project Details (FY 2024 - 25)
   - The project is consisted of 3 tasks i.e. landing gear refurbishment, procurement of used Trent 500 engines and the repair of passenger seats.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

The Airbus 340-500 Replacement Project

1. Shooter Group, Code AF01010301
2. Project Details (FY 2025 - 28)
   - Procurement of a Long-haul VIP Transport aircraft with more than 12 hours flight time
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

The ATR72-500 Replacement Project

1. Shooter Group, Code AF01010302
2. Project Details (FY 2033 - 37)
   - Procurement of Short-haul Transport aircrafts with more than 3 hours flight time
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project

- RTAF R&D Project

C-130H Capability Enhancement Project

1. Shooter Group, Code AF01010301
2. Project Details (FY 2024 – 27, 2027 – 30)
   - Upgrade of C-130H engines (T56-A-15LFE)
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

The BT-67 Replacement Project

1. Shooter Group, Code AF01010302
2. Project Details (FY 2031 - 35)
   - Procurement of a Short-haul Transport aircrafts
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Helicopter Group

The Medium-Sized Helicopter for CSAR Mission Phase 5 Project

1. Shooter Group, Code AF01010401
2. Project Details (FY 2024 - 26)
   - Capability enhancement for H225M by procurement of 5 water buckets
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

The Procurement of VIP Medium-Sized Helicopter

1. Shooter Group, Code AF01010402
2. Project Details (FY 2025 - 28)
   - Procurement of two VIP medium-sized helicopters to support the medical evacuation and SAR mission.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Training Group

The Procurement of Fighter Lead-in Aircraft

1. Shooter Group, Code AF01010501
2. Project Details (FY 2025 – 28)
   - Procurement of Fighter Lead-in Aircrafts to support the Lead-in fighter pilots.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

The Tactical Simulation Center (TSC) Project

1. Shooter Group, Code AF01010502
2. Project Details (FY 2027 – 31)
   - Procurement of Tactical Simulation System (TSC) to support the training for fighter pilots and GBAD units.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

The CT-4E Replacement Project

1. Shooter Group, Code AF01010501
2. Project Details (FY 2033 – 37)
   - Procurement of CT-4E to support the student pilots training.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Unmanned Aerial System Group

M Solar-X Production for Air Base Defense Project

1. Shooter Group, Code AF01010601
2. Project Details (FY 2023 – 25, 2025 – 28)
   - R&D project for low altitude UAV driven by solar energy to support the RTAF base ISR and defense.
   - The system is to be certified and produced for operations in RTAF.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

R&D Project for Security Mission UAV

1. Shooter Group, Code AF01010601
2. Project Details (FY 2022 – 26, 2026 – 31)
   - R&D to produce Kamikaze Drone for attacking stationary target.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑ (Phase 1)

SATCOM for UAV Project

1. Shooter Group, Code AF01010602
2. Project Details (FY 2025 – 28)
   - The project is to enhance the control performance/coverage of RTAF Dominator-XP by installing SATCOM system.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

UCAV Project

1. Shooter Group, Code AF01010602
2. Project Details (FY 2026 – 29)
   - Procurement of medium UCAV with Beyond Line of Sight (BLOS) capability
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Project for High Altitude Pseudo Satellite (HAPS)

1. Shooter Group, Code AF01010602
2. Project Details (FY 2024 – 30, 2030 – 35)
   - The project is to produce High Altitude Pseudo Satellite (HAPS) to support ISR mission.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Swarm UAV: Common Micro/Nano UAS Project

1. Shooter Group, Code AF01010601
2. Project Details (FY 2026 – 31, 2031 – 36)
   - Feasibility study for Swarm Drone R&D to support RTAF mission.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

R&D Project for Tactical UAV

1. Shooter Group, Code AF01010601
2. Project Details (FY 2029 – 34, 2034 – 37)
   - Feasibility study for Swarm Drone R&D to support RTAF mission.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

R&D Project for MUM-T

1. Shooter Group, Code AF01010602
2. Project Details (FY 2029 – 35, 2035 – 37)
   - The project is to feasibility study the latest technology in Man-Unmanned Teaming to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Tactical UAV with Weapon Employment Capability Project

1. Shooter Group, Code AF01010602
2. Project Details (FY 2029 – 34, 2034 – 37)
   - Procurement of tactical UAV with weapon employment capability
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Sensor (Radar)

Development of RTAF Air Defense System (Radar at Phu Kiew)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2024 – 27)
   - Procurement of Radar at Phu Kiew site
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Development of RTAF Air Defense System (Radar at Hat Yai)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2025 – 28)
   - Procurement of Radar at Hat Yai site
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Development of RTAF Air Defense System (Radar at Phuket)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2026 – 29)
   - The project is to procure Multi-Mission Radar for both Air defense and space SSA purpose.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Development of RTAF Air Defense System (Radar at Kanchanaburi)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2028 – 31)
   - Procurement of Radar at Kanchanaburi site
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Development of RTAF Air Defense System (Passive Radar)

1. Sensor Group, Radar, Code AF01020701/02
2. Project Details (FY 2030 – 33)
   - Procurement of Passive Radar
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Development of RTAF Air Defense System (Radar at Ban Pe)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2032 – 35)
   - Procurement of Radar at Ban Pe site
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Development of RTAF Air Defense System (Radar at Phu Mun Khao)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2033 – 36)
   - Procurement of Radar at Phu Mun Khao site
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

R&D Project for Mobile Radar

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2025 – 29)
   - This R&D project is to self-produce three (3) mobile radars to support RTAF Anti-Drone System.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Development of RTAF Air Defense System (Radar at Khao Kiew)

1. Sensor Group, Radar, Code AF01020701
2. Project Details (FY 2034 – 37)
   - The project is to procure Multi-Mission Radar for both Air defense and space SSA purpose.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Satellite Data Collection System Project

1. Sensor Group, Intelligence, Code AF01020203
2. Project Details (FY 2026 – 30)
   - Procurement of satellite data collection system
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Sensor (Intelligence)

Data Collection from THEOS-2/2A Project

1. Sensor Group, Intelligence, Code AF01020203
2. Project Details (FY 2028 – 31)
   - The project is to seek the collaboration with THEOS-2/2A satellite to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

IMINT Analysis System Project

1. Sensor Group, Intelligence, Code AF01020201
2. Project Details (FY 2029 – 34)
   - Development of the IMINT Analysis system to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

SIGINT Analysis System Project

1. Sensor Group, Intelligence, Code AF01020201
2. Project Details (FY 2034 – 37)
   - Development of the SIGINT Analysis system to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Development of Photo Reconnaissance Capability

1. Sensor Group, Intelligence, Code AF01020202
2. Project Details (FY 2028 – 32)
   - Development of Photo Reconnaissance Capability to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Development of Synthetic Aperture Radar Capability

1. Sensor Group, Intelligence, Code AF01020202
2. Project Details (FY 2033 – 37)
   - Development of Synthetic Aperture Radar (SAR) Capability to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Intelligence Course Development with International Collaboration

1. Sensor Group, Intelligence, Code AF01020201
2. Project Details (FY 2024 – 27)
   - Intelligence course development by International Collaboration
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Intelligence Course Development for GEOINT and SIGINT

1. Sensor Group, Intelligence, Code AF01020201
2. Project Details (FY 2024 – 37)
   - The project is to seek international collaboration among intelligence community to develop the advanced course in GEOINT and SIGINT.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Network

Network Capability Enhancement for Users Project

1. Network Group, Code AF01030001
2. Project Details (FY 2026 – 29)
   - The project is to develop and update components in SD-WAN system to reach every user via general internet or 4G/5G network or the broadband data from LEO satellite (Star link, One Web, Galaxy Space) with the quick deployment capability. The network must be Secure & Encrypted, sufficient channel with low latency. The network could be connected from OPS or Admin system with the global coverage for 24/7.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Satellite Communication with THAICOM

1. Network Group, Code AF01030001
2. Project Details (FY 2025 – 28)
   - Procurement of SATCOM clients in Ku Broadband through THAICOM satellite
   - Update the SATCOM ground station and clients in Ku Broadband both fixed and mobile site.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Updating Project for Security System between OPS and Other System

1. Network Group, Code AF01030002
2. Project Details (FY 2026 – 29)
   - The project is to enhance Network Security System E.g. Firewall, Security Information and Event Management (SIEM), and Integrated Network Monitoring and Management System to support RTAF network protection.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Enhancement of RTAF Backbone Network Capability

1. Network Group, Code AF01030003
2. Project Details (FY 2026 – 29)
   - Update and upgrade of RTAF Network Infrastructure and expand the Operational Coverage by increasing the signal channel and Backbone Capacity. The network is to support advanced telecommunication backbone technologies, Everything Over IP – EOIP or High-Resolution Voice/Video under high level of Cyber Security.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Smart Network System Development

1. Network Group, Code AF01030003
2. Project Details (FY 2030 – 32)
   - The project is to develop network for the Last Mile and Deployable units using AI-Powered Network Switching/Routing enabling the network to monitor, detect, analyze, and troubleshoot itself.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Development of Deployable OPS System Network via SATCOM

1. Network Group, Code AF01030001
2. Project Details (FY 2028 – 34)
   - Procurement of SATCOM clients in Ku Broadband for the deployable and mobile units to expand operational coverage.
   - Update the SATCOM ground station and clients in Ku Broadband both fixed and mobile site for the deployable and mobile units to expand operational coverage.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Command & Control

Command and Control System Development Project (D2C2)

1. C2 Group, Code AF01040001
2. Project Details (FY 2024 – 28)
   - The project is to enhance RTAF C2 capability by integration of TDL into ACCS, maintaining the system readiness as well as transferring of technology for the future sustainability.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Procurement of ICSS Project

1. C2 Group, Code AF01040002
2. Project Details (FY 2026 – 28)
   - Procurement of ICSS to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Procurement of Ground to Air Radio

1. C2 Group, Code AF01040002
2. Project Details (FY 2028 – 31, 2031 - 34)
   - Procurement of Ground to Air Radio to support RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

TDL Network Development Project

1. C2 Group, Code AF01040001
2. Project Details (FY 2028 – 31)
   - TDL coverage enhancement by GES Expansion, Mobile GES, and Network
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

The Logistics Project for TDL System

1. C2 Group, Code AF01040002
2. Project Details (FY 2029 – 34)
   - The project is to develop logistics system for Tactical Data Link (TDL) System.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Command and Control System Development Project, Phase 3

1. C2 Group, Code AF01040002
2. Project Details (FY 2034 – 37)
   - Sustainability and enhancement project for the command-and-control system through the maintenance of Ground to Air radios and C2 system
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Command and Control System Development Project (SOC)

1. C2 Group, Code AF01040002
2. Project Details (FY 2031 – 34)
   - Enhancement of the command-and-control capability in the western north area
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Airborne Early Warning & C2 Project

1. C2 Group, Code AF01040001
2. Project Details (FY 2026 – 29)
   - Modification of two (2) SAAB-340AEW to replace the Dorsal Units which is about to expire as well as adding the command-and-control capability.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Cyber Domain

Cyber Defense

Smart Penetration Testing Tools Project

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2025 – 27)
   - The project is to simulate the penetration test the RTAF networks security. The test involves utilizing different tactics and tools to

learn about the network strength or weakness, resulting in enhancement of the network security.

3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Development of Cyber Simulation System Project

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2025 – 30)
   - The project is to test Cyber Security measures with continuous and automatic simulated attacks.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Cyber Range Development Project

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2024, 2031 – 37)
   - The project is to create the Cyber Range for training RTAF Cyber personnel.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Development of Artificial Intelligence (AI) for Cyber Protection

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2025 – 28)
   - Development of Artificial Intelligence (AI) module to analyze the Cyber Attack trend for 24/7
4. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Development of Analysis System for Cyber Threat Detection Project

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2028 – 33)
   - The project is to implement Artificial Intelligence (AI), with deep learning technique, in analyzing the Cyber Attack trend for 24/7.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

R&D Project to Implement Zero-Trust Architecture

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2026 – 28)
   - Feasibility studies the concepts of Zero Trust Architecture for future implementation on RTAF network
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Cyber Defense System on Server, Clients, and Network

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2024)
   - The project is to identify and evaluate the cyber threat in RTAF network.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Automatic Cyber Threat Responding System

1. Cyber Domain, Cyber Defense, Code AF0201
2. Project Details (FY 2024)
   - The project is to enable the network to automatically always respond to any Cyber threat.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Cyber ISR

Cyber ISR System Development

1. Cyber Domain, Cyber ISR, Code AF0202
2. Project Details (FY 2025 – 27)
   - Evaluation of the network vulnerability to enhance the system security and development of Cyber threat database.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Space Domian

Space Situation Awareness

New Telescope Procurement

1. Space Domain, Space Situation Awareness Code AF0301
2. Project Details (FY 2028 - 32)
   - The project is to enhance RTAF capability in Space Situational Awareness (SSA) by adding one more telescope to the existing ones. It will also help reducing the weather effects by monitoring from multiple location and easing the space personnel training situation.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Thai Universe – 1 Satellite Project

1. Space Domain, Space ISR, Code AF03
2. Project Details (FY 2022 - 24)
   - R&D project to develop the prototype 0.7U Nano Satellite to educate the R&D team prior to the next advanced project.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Nano SAT THAI IOT Project

1. Space Domain, Space Situation Awareness, Code AF03
2. Project Details (FY 2024 - 25)
   - R&D project to develop the CubeSat to educate the R&D team prior to the next advanced project.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Thai Universe – 2 Satellite Project

1. Space Domain, Space ISR, Code AF03
2. Project Details (FY 2024 - 26)
   - R&D project to develop the prototype 6U Nano Satellite to educate the R&D team prior to the next advanced project.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Human and Behavior

Education and Education Support

PME Course Integration Project

1. Human and Behavior Group, Education, Code AF010501
2. Project Details (FY 2025 - 27)
   - The project is to integrate the Professional Military Education (PME) courses to create Strategic Leadership. The focus will be for RTAF personnel and the school staffs to raise the education standard to international level driving RTAF to be Unbeatable Air Force.

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3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Air Technical Training School (ATTS) Course Revision Project

1. Human and Behavior Group, Education, Code AF010501
2. Project Details (FY 2025 - 27)
   - The project is to revise the course syllabus so that it will meet the standard "Type A" technician according to international standard. More practical or hands-on training will also be added in the syllabuses to upskill ATTS students.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Specialist Instructors Development Project

1. Human and Behavior Group, Education, Code AF010501
2. Project Details (FY 2027 - 32)
   - The project is to find or develop the specialist instructors in Cyber and Space fields.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Takhli Training Center Project

1. Human and Behavior Group, Education Support, Code AF010502
2. Project Details (FY 2025 - 27)
   - Development of infrastructure to establish Takhli Training Center inside Wing 4, Nakon Sawan to support RTAF Directorate of Education and Training.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Smart Classroom Project

1. Human and Behavior Group, Education Support, Code AF010502
2. Project Details (FY 2026 – 30, 2030 – 34)
   - The project is to create the learning environment through modern facilities and advanced training aids.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

E-Learning Project

1. Human and Behavior Group, Education Support, Code AF010502
2. Project Details (FY 2025 - 27)
   - The project is to digitize all the educational courses / materials so that they are available online. The E-Learning system will be developed to increase learning opportunity for RTAF personnel with the same standard and effectiveness.
3. Project format in accordance with the roadmap
   - Procurement Project

- Defense Industries Collaboration Project ☑
- RTAF R&D Project

Wargame Project

1. Human and Behavior Group, Education Support, Code AF010502
2. Project Details (FY 2029 – 33, 2033 – 36)
   - The project is to develop or procure the Wargame system to enhance the knowledge and experience in war planning, combat operations at all levels in the simulated situation.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Support and Service

Logistics Enhancement Program for New Fleet at 102 SQN, Phase 1

1. Support & Service Group, Logistics, Code AF01060101
2. Project Details (FY 2029 - 38)
   - Performance Based Logistics (PBL) will be implemented to guarantee the aircrafts availability according to operational requirement. The project aims for the lowest Life Cycle Cost with the series of 3-4 years support contracts. The contract could vary for the terms in supplies or maintenance support depending on the contractor capabilities and what is best option for RTAF.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Logistics Enhancement Program for T-50TH

1. Support & Service Group, Logistics, Code AF01060101
2. Project Details (FY 2025 - 34)
   - Performance Based Logistics (PBL) will be implemented to guarantee the T-50TH availability according to RTAF operational requirement. The project aims for the lowest Life Cycle Cost with the series of 3-4 years support contracts. The contract could vary for the terms in supplies or maintenance support depending on the contractor capabilities and what is best option for RTAF.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Logistics Enhancement Program for Gripen 39 C/D, Phase 2

1. Support & Service Group, Logistics, Code AF01060101
2. Project Details (FY 2026 - 35)
   - Performance Based Logistics (PBL) will be implemented to guarantee the Gripen 39 C/D availability according to operational requirement. The project aims for the lowest Life Cycle Cost with the series of 3-4 years support contracts. The contract could vary for the terms in supplies or maintenance support depending on the contractor capabilities and what is best option for RTAF.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

Logistics Enhancement Program for VIP Aircraft at 602 SQN, Phase 1

1. Support & Service Group, Logistics, Code AF01060101
2. Project Details (FY 2032 - 41)
   - Performance Based Logistics (PBL) will be implemented to guarantee the VIP aircraft availability at 602 SQN according to operational requirement. The project aims for the lowest Life Cycle Cost with the series of 3-4 years support contracts. The contract could vary for the terms in supplies or maintenance support depending on the contractor capabilities and what is best option for RTAF.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Logistics Enhancement Program for H225M

1. Support & Service Group, Logistics, Code AF01060101
2. Project Details (FY 2030 - 39)
   - Performance Based Logistics (PBL) will be implemented to guarantee the H225M availability according to operational requirement. The project aims for the lowest Life Cycle Cost with the series of 3-4 years support contracts. The contract could vary for the terms in supplies or maintenance support depending on the contractor capabilities and what is best option for RTAF.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Logistics Management Information System (LMIS) Project

1. Support & Service Group, Logistics Code, AF010602
2. Project Details (FY 2025 - 34)
   - Addition of function in Data Management and Analysis by AI to support logistics decision making.
   - Addition of Data Warehouse
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Nam Phong RTAF Exercise Center Project

1. Support & Service Group, Infrastructure, Code AF01060102
2. Project Details (FY 2021 - 27)
   - The project is to establish the Nam Phong RTAF Exercise Center to support both RTAF and Civil-Military exercise in ASEAN.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Development of RTAF Bases Project

1. Support & Service Group, Infrastructure, Code AF01060102
2. Project Details (FY 2025 - 29)
   - Infrastructure development at Wing 1, Wing 3, Wing 6, Chiang Rai and Ta Mai Air Base to support RTAF operations
4. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Weapon Delivery Range Development Project

1. Support & Service Group, Infrastructure, Code AF01060102
2. Project Details (FY 2026 - 29)
   - The project is to develop RTAF Weapon Range systems and facilities to accommodate the training and live firing for short to long range of weapon.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Solar Floating Project

1. Support & Service Group, Sustainable Energy, Code AF01060202
2. Project Details
   - Addition of Solar Energy to increase the alternative energy utilization to 20% target.
   - This project reduces the greenhouse effects and could be counted as the carbon credit for Thailand.
   - Timeframe
     - FY 2024 – 28 Solar Floating 1 MW (MOU with PTT) at RTAF Sport Center
     - FY 2024 – 28 Solar Floating 1 MW (MOU with PEA) at Bhumiphol Hospital
     - FY 2026 – 29 Solar Floating 1 MW (MOU with PTT) at AOCC
     - FY 2026 – 29 Solar Floating 1 MW (MOU with PTT) at Sikan Hospital
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑

- RTAF R&D Project

Solar Rooftop Project

1. Support & Service Group, Sustainable Energy, Code AF01060201
2. Project Details
   - Addition of Solar Energy to increase the alternative energy utilization to 20% target.
   - This project reduces the greenhouse effects and could be counted as the carbon credit for Thailand.
   - Timeframe
     - FY 2024 – 28 Solar Rooftop 390 kW (MOU with PEA) at RTAF Welfare Shop (BX)
     - FY 2025 – 28 Solar Rooftop 1.12 MW (MOU with PTT) at RTAF NKRAFA (Muaklek)
     - FY 2026 – 28 Solar Rooftop 500 kW (MOU with PTT) at RTAF Museum
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project

Replacement of Retired Heat Combustion Car by Electric Car Project

1. Support & Service Group, Sustainable Energy, Code AF01060203
2. Project Details (FY 2025 - 28)
   - This project reduces the greenhouse effects and could be counted as the carbon credit for Thailand.
3. Project format in accordance with the roadmap
   - Procurement Project ☑
   - Defense Industries Collaboration Project
   - RTAF R&D Project

R&D Project to study the use of Bio-Jet on the RTAF aircraft.

1. Support & Service Group, Sustainable Energy, Code AF01060203
2. Project Details (FY 2027 - 35)
   - This R&D project is to promote the use of alternative energy within the organization. It also reduces the greenhouse effects and could be counted as the carbon credit for Thailand.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

Software Factory Project

1. Support & Service Group, AI and Software Solution, Code AF01060301
2. Project Details (FY 2025 - 30)
   - The project is to establish the standard Software Factory adopting the agile and DevSecOps software production process with COTS tools and equipment. This project will allow RTAF software personnel to self-develop own software solutions, hence, minimize the foreign dependency.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project
   - RTAF R&D Project ☑

RTAF Chat GPT Project

1. Support & Service Group, AI and Software Solution, Code AF01060302
2. Project Details (FY 2028 - 30)
   - The project is to develop AI Model with Large Language Model to enable the natural language communication correctly, quickly, and aesthetically. The AI model will be trained using RTAF Big Data with Deep Learning technique, so that our AI has specific knowledge about RTAF which will enhance the efficiency of RTAF operations.
3. Project format in accordance with the roadmap
   - Procurement Project
   - Defense Industries Collaboration Project ☑
   - RTAF R&D Project